

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. APPLICATION NO. 10/045,651
ATTORNEY DOCKET NO. Q80298

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claims 1. – 15. (canceled)

16. (currently amended) A method for recording an image to be recorded by a direct image scanner on an upper layer of a multi-layered printed circuit board substrate in alignment with a pattern on a lower layer thereof, the method comprising:

detecting at least two holes provided in the upper layer, said at least two holes being provided in predetermined alignment to said pattern and not passing through said lower layer, wherein said lower layer is attached to said upper layer during said detecting; and

scanning a pattern on the upper layer in predetermined alignment with said at least two holes.

17. (currently amended) A method for recording an image on an upper layer of a multi-layered printed circuit board substrate, the method comprising:

forming at least one hole in an upper layer of a multi-layered printed circuit board substrate said upper layer being attached to at least one lower layer of circuitry, said at least one hole not passing through a lower layer of circuitry and having a known spatial orientation to a pattern formed on a lower layer of the substrate;

acquiring an image of the at least one hole, said upper layer being attached to said at least one lower layer during said acquiring;

calculating a location of the at least one hole from analysis of the image; and

recording a pattern on the upper layer with reference to said location.

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18. (previously presented) The method for recording an image according to claim 17 and wherein forming at least one hole comprises forming at least two holes with a laser micro-machining device.
19. (canceled)
20. (original) The method for recording an image according to claim 17 and wherein acquiring an image includes acquiring a digital image of the at least one hole.
21. (original) The method for recording an image according to claim 17 and wherein calculating a location of the at least one hole from analysis of the image comprises calculating a location of the at least one hole in a coordinate system of an image recording system.
22. (original) The method for recording an image according to claim 17 and wherein recording a pattern comprises photosensitizing said upper layer and scanning a pattern onto the upper layer with a laser direct imaging system.
23. (original) The method for recording an image according to claim 17 and wherein recording a pattern comprises photosensitizing said upper layer and imaging a pattern onto the upper layer through a mask.
24. (previously presented) A method according to claim 17 wherein said at least one hole comprises a plurality of holes arranged in a non-periodic hole pattern.
25. (original) A method according to claim 24 wherein holes forming said hole pattern do not pass through at least a layer of said multi-layered printed circuit board substrate.

Claims 26. – 55 (canceled).